

FACT SHEET



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

E. coli in the Environment

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Description:

- *Escherichia coli*, or *E. coli*, is a common example of coliform bacteria. Coliform bacteria are organisms that are present in the environment and in the waste of warm-blooded animals and humans.
- Public water systems monitor for coliform, as the presence of coliform bacteria in drinking water indicates an increased likelihood that other organisms may be present.
- Many types of coliform bacteria are not harmful. A few strains of coliform such as *E. coli* are pathogenic and can cause illness if ingested. Ingesting *E. coli* may cause severe diarrhea and abdominal cramps.
- During rainfalls, snow melts, or other types of precipitation, untreated sewage containing *E. coli* may wash into creeks, rivers, streams, or lakes.

Sources of *E. coli* in the environment:

- There are many pathways through which *E. coli* can enter and contaminate water:
 - Combined sewer overflows (CSOs) – When it rains, those systems can become overburdened and release excess storm water and untreated sewage. Communities must post warning sign near where outfalls are located.
 - Sanitary sewer overflow bypasses – Separate sanitary sewer and wastewater treatment plants occasionally experience unauthorized discharges of untreated or partially treated wastewater.
 - Septic systems – When septic systems fall into disrepair or reach capacity, the sewage can leak into nearby waterways. Because of this, the absorption field, or area over which the discharged sewage is dispersed into the ground, should be located away from waterways and wells.
 - Straight pipes – Some individual homes or subdivisions have pipes that transfer untreated waste directly from septic tanks to a river or lake. This illegal practice should be corrected and is punishable by fines if continued.
 - Wildlife – Waste from ducks, geese, deer, raccoons, and other fauna living on or near water can contaminate waterways with *E. coli*.
 - Urban and agricultural run-off – Waste from pets and farm animals is a source of *E. coli*.

IDEM's Role:

- The Indiana Department of Environmental Management (IDEM) is responsible for protecting human health and the environment while providing for safe industrial, agricultural, commercial, and governmental operations vital to a prosperous economy.
- IDEM sets and enforces water quality standards for safe bacteria levels.
- IDEM requires municipal wastewater systems to test for *E. coli*.
- IDEM's Office of Water Quality periodically tests *E. coli* levels in waters throughout Indiana to assess bacteria levels in rivers and streams. IDEM uses this assessment to

help local entities develop pollution reduction plans to address *E. coli* contamination originating from non-point sources.

- IDEM requires public drinking water systems to conduct tests to regularly monitor bacterial levels in drinking waters provided to customers.
- IDEM maintains a searchable database of drinking water quality reports submitted by each community water system in Indiana.
- IDEM does **not** monitor or regulate food products for compliance with *E. coli* regulations. That falls under the responsibility of the U.S. Department of Agriculture and its agents.

Citizen's Role:

- There are a number of actions every citizen can take to reduce *E. coli* contamination in the environment:
 - Regularly inspect private, residential wells to ensure that there are not pathways for surface water to enter the well, such as a cracked casing or missing cap.
 - Properly dispose of pet waste, which can contain bacteria, viruses, and parasites; and contaminate the environment.
 - Have septic tanks regularly checked and emptied to prevent overflows or leaks.
- There are actions citizens can take to reduce their exposure to *E. coli* at the beach or during recreational activities:
 - Find out which beaches are regularly monitored and have posted advisories.
 - In areas not monitored regularly, choose swimming sites with good water circulation.
 - When canoeing, kayaking, fishing, or boating, avoid accidental ingestion of surface water.
 - Wash your hands before eating, and shower after coming in contact with surface water.

More Information:

- For more information on *E. coli* and IDEM's water quality monitoring programs, please visit IDEM's website at <http://www.IN.gov/idem/4114.htm>.
- For more information on Indiana Lake Michigan beach monitoring, visit IDEM's Indiana Beach Guard Monitoring System website at <http://www.IN.gov/idem/4151.htm>.
- For more information about the quality of your drinking water system, consult the annual water quality report provided by a local water system. Water quality data and reports are available by searching IDEM's Drinking Water Facility Database at <https://myweb.in.gov/IDEM/DWWW/> or the U.S. Environmental Protection Agency's (U.S. EPA's) website at <http://cfpub.epa.gov/safewater/ccr/index.cfm?OpenView>.
- For more information on home water testing, private well disinfection, and annual compliance reports from public water systems, visit IDEM's website at <http://www.in.gov/idem/cleanwater/2386.htm>.
- For information about *E. coli* from the Indiana State Department of Health, visit <http://www.in.gov/isdh/25489.htm>.
- For questions and concerns, please call IDEM's Office of Water Quality, Drinking Water Branch at (317) 232-8670.